



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

100 Cambridge Street Suite 900 Boston, MA 02114 • 617-292-5500

Maura T. Healey  
Governor

Kimberley Driscoll  
Lieutenant Governor

Rebecca L. Tepper  
Secretary

Bonnie Heiple  
Commissioner

Sean Nolan, Superintendent of Golf Courses  
& Grounds  
Brae Burn Country Club  
326 Fuller Street  
West Newton, MA 02465

March 22, 2023

RE: Water Management Act

Permit No. 9P2-3-20-207.01

DRAFT WMA 5-Year Permit Review

Dear Mr. Nolan:

Please find the following attached documents:

- Findings of Fact in Support of the DRAFT Permit Decision.
- DRAFT Water Management Act Permit for withdrawals by Brae Burn Country Club in the Charles River Basin.

Consistent with the revised Water Management Act Regulations promulgated on November 7, 2014, MassDEP will now publish notice in the Environmental Monitor that a DRAFT Permit is available for review and comment for 30 days from the March 22, 2023 publication in the Environmental Monitor. Notice of the comment period will also be sent to all registrants, permittees and those having non-consumptive use statements within the Charles River Basin. MassDEP expects to issue the final permit within 30 days of the close of the comment period.

If you have any questions regarding the draft permit, please contact Shi Chen at [shi.chen@mass.gov](mailto:shi.chen@mass.gov) or 857-360-0042.

Sincerely,

Duane LeVangie  
Water Management Program Chief  
Bureau of Water Resources

DRAFT WMA Permit 9P2-3-20-207.01  
Brae Burn Country Club  
Cover Letter

cc: Julie Wood and Jennifer Ryan, Charles River Watershed Association  
Julia Blatt and Sarah Bower, Mass Rivers Alliance  
Sarah W. Stearns, Beals and Thomas, Inc  
Bill Humphrey, Newton City Councilor

[mass.gov.sharepoint.com/W:/DWP Archive\NERO\Newton-9P232020701-DRAFT-WMA-2023-3-22](https://mass.gov.sharepoint.com/W:/DWP%20Archive/NERO/Newton-9P232020701-DRAFT-WMA-2023-3-22)

[mass.gov.sharepoint.com/Y:/DWPWMA\Permit Renewal\Charles\Newton-9P232020701-DRAFT-WMA-2023-03-22](https://mass.gov.sharepoint.com/Y:/DWPWMA/Permit%20Renewal/Charles/Newton-9P232020701-DRAFT-WMA-2023-03-22)



**Massachusetts Department of Environmental Protection**  
**One Winter Street, Boston MA 02108 • Phone: 857 262-0606**  
**Communication for Non-English-Speaking Parties - 310 CMR**  
**1.03(5)(a)**



**1 English:**

This document is important and should be translated immediately. If you need this document translated, please contact MassDEP's Diversity Director at the telephone numbers listed below.



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**3 Português (Portuguese):**

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**4(a) 中國（傳統）(Chinese (Traditional)):**

本文件非常重要，應立即翻譯。如果您需要翻譯這份文件，請用下面列出的電話號碼與 MassDEP 的多元化總監聯繫。



**4(b) 中国（简体中文）(Chinese (Simplified)):**

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**5 Ayisyen (franse kreyòl) (Haitian) (French Creole):**

Dokiman sa-a se yon bagay enpòtan epi yo ta dwe tradui imedyatman. Si ou bezwen dokiman sa a tradui, tanpri kontakte Divèsite Direktè MassDEP a nan nimewo telefòn ki nan lis pi ba a.



**6 Việt (Vietnamese):**

Tài liệu này rất quan trọng và cần được dịch ngay lập tức. Nếu bạn cần dịch tài liệu này, xin vui lòng liên hệ với Giám đốc Đa dạng của MassDEP theo các số điện thoại được liệt kê dưới đây.



**7 ប្រទេសកម្ពុជា (Kmer (Cambodian)):**

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ឯកសារនេះគឺមានសារៈសំខាន់និងគួរត្រូវបានបកប្រែភ្លាមៗ ប្រសិនបើអ្នកត្រូវបានបកប្រែឯកសារនេះសូមទំនាក់ទំនងឆ្នោតជានាយក MassDEP នៅលេខទូរស័ព្ទដែលបានរាយខាងក្រោម។



**8 Kriolu Kabuverdianu (Cape Verdean):**

*Es documento é importante e deve ser traduzido imidiatamente. Se bo precisa des documento traduzido, por favor contacta Director de Diversidade na MassDEP's pa es numero indicode li d'boche.*



**9 Русский язык (Russian):**

Это важный документ и он должен быть безотлагательно переведен. Если вам нужен перевод данного документа, пожалуйста, свяжитесь с директором по разнообразию компании MassDEP по телефону указанному ниже



**10 العربية (Arabic):**

هذه الوثيقة مهمة ويجب ترجمتها على الفور. اذا كنت بحاجة الى هذه الوثيقة المترجمة، يرجى الاتصال بمدير التنوع في PMassDE على أرقام الهواتف المدرجة أدناه.



**11 한국어 (Korean):**

이 문서는 중요하고 즉시 번역해야 합니다. 이 문서의 번역이 필요하시다면, 아래의 전화 번호로 MassDEP의 다양성 감독에 문의하시기 바랍니다.



**12 հայերեն (Armenian):**

Այս փաստաթուղթը շատ կարևոր է եւ պետք է թարգմանել անմիջապես. Եթե Ձեզ անհրաժեշտ է այս փաստաթուղթը թարգմանվել դիմել MassDEP բազմազանությունը տնօրեն է հեռախոսահամարների թվարկված են ստորև.



**13 فارسی (Farsi [Persian]):**

این سند مهم است و باید فوراً ترجمه شده است. اگر شما نیاز به این سند ترجمه شده، لطفاً با ما تماس تنوع مدیر PMassDE در شماره تلفن های ذکر شده در زیر.



**14 Français (French):**

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**15 Deutsch (German):**

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**16 Ελληνική (Greek):**

Το παρόν έγγραφο είναι σημαντικό και θα πρέπει να μεταφραστεί αμέσως. Αν χρειάζεστε μετάφραση του παρόντος εγγράφου, παρακαλούμε επικοινωνήστε με τον Διευθυντή Διαφορετικότητας του MassDEP στους αριθμούς τηλεφώνου που αναγράφονται παρακάτω.



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Questo documento è importante e dovrebbe essere tradotto immediatamente. Se avete bisogno di questo documento tradotto, si prega di contattare il Direttore di Diversità di MassDEP ai numeri di telefono elencati di seguito.



**18 Język Polski (Polish):**

Dokument ten jest ważny i powinien zostać natychmiast przetłumaczony. Jeśli potrzebujesz przetłumaczonej wersji dokumentu, prosimy o kontakt z dyrektorem ds. różnorodności MassDEP pod jednym z numerów telefonu wymienionych poniżej.



**19 हिन्दी (Hindi):**

यह दस्तावेज़ महत्वपूर्ण है और तुरंत अनुवाद किया जाना चाहिए. यदि आपको इस दस्तावेज़ का अनुवाद करने की आवश्यकता है, तो कृपया नीचे सूचीबद्ध टेलीफोन नंबरों पर मासडेप्स डाइवर्सिटी के निदेशक से संपर्क करें।.



# Department of Environmental Protection

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## **Findings of Fact in Support of **Draft** Permit Decision Water Management Act Permit #9P2-3-20-207.01 Brae Burn Country Club**

The Massachusetts Department of Environmental Protection (the Department) makes the following *Findings of Fact* in support of the attached **Draft** Water Management Act (WMA) Permit #9P2-3-20-207.01 and includes herewith its reasons for issuing the **Draft** permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11.

### **Brae Burn Country Club Withdrawal History**

Brae Burn Country Club (Brae Burn) has been operating in Newton for many years. Prior to 1991, Brae Burn irrigated using municipal water provided by the City of Newton. By the late 1980's, the cost of purchasing the water from Newton had risen to the point that it made economic sense for Brae Burn to obtain a Water Management Act permit to construct and irrigate using their own sources. On January 31, 1991, Brae Burn received Water Management Act Permit #9P2-3-20-207.01 to irrigate the golf course and country club grounds. The permit was based on a conservative estimate of the volume of water needed and resulted in a permitted volume of 0.072 million gallons per day (MGD) over 210 days per year for a total of 15 million gallons per year (MGY).

On August 7, 2000, Brae Burn received an amended permit adding an additional source, Well #1-99, to the permit, but maintaining the total permitted volume at 0.072 MGD and 15 MGY.

On March 1, 2010, MassDEP issued a permit increasing Brae Burn's withdrawal volume to 0.1 MGD and 21.0 MGY using calculations based on MassDEP's Golf Course Water Use Policy (Policy #BRP/BWM/PeP-P00-5, June 8, 2000) rather than the calculations used in the original permit application in 1990.

On August 12, 2020, MassDEP issued an Order to Complete (OTC) seeking additional information to evaluate Brae Burn's compliance with their existing permit's conditions and to amend that permit to make it consistent with changes made to the Water Management Act Regulations in 2014. Brae Burn responded to the questions in the OTC on October 29, 2020. MassDEP reviewed the responses and asked the club to submit additional information on the proposed mitigation activities. On April 16, 2021, Brae Burn submitted the supplemental

information and identified they were contemplating requesting a higher withdrawal volume of 24 MGY. On March 17, 2022, Brae Burn submitted a new permit application requesting an increase in authorized volume to 0.114 MGD over 210-days a year, or 24 MGY to ensure adequate irrigation supply during potential drought periods to avoid the need to purchase any municipally supplied water. MassDEP received a total of 12 public comments, 3 of which opposed granting the higher authorized volume due to environmental impact concerns and raising concerns about past exceedances of the maximum authorized daily withdrawal volume from the withdrawal sources and a failure to submit reports documenting water conservation measures over the years. The remaining comments supported granting the higher authorized volume as Brae Burn had implemented several environmentally beneficial projects including stream buffer restoration plantings and upgrading the irrigation systems. MassDEP had a meeting with representatives from Brae Burn on September 15, 2022 discussing the public comments and suggesting the club collect additional withdrawal data to justify the need for increasing the withdrawal volume. On November 8, 2022, Brae Burn requested to withdraw the new permit application.

### **The Permit Extensions**

The renewed permit issued on March 1, 2010, had an expiration date of February 28, 2029. In 2010, the permit was extended for two years by Section 173 of Chapter 240 of the Acts of 2010, the Permit Extension Act. In 2012, the Permit Extension Act was amended by chapter 238 of the Acts of 2012, and the permit was again extended an additional two years to February 28, 2033. That date was further extended by 462 days due to COVID-19 Order No. 42, "Order Resuming State Permitting Deadlines and Continuing to Extend the Validity of Certain State Permits," issued on July 2, 2020. The expiration date for all permits going forward in the Charles River Basin will be June 5, 2034.

### **The Water Management Act (M.G.L.c. 21G)**

The Water Management Act (Act) requires that MassDEP issue permits that balance a variety of factors including without limitation:

- Impact of the withdrawal on other sources of water;
- Time of year when the withdrawal will be made;
- Water available within the safe yield of the source;
- Reasonable protection of existing water uses, land values, investments and enterprises;
- Proposed use of the water and other existing or projected uses of water from the water source;
- Municipal and Massachusetts Water Resources Commission (WRC) water resource management plans;
- Reasonable conservation consistent with efficient water use;
- Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, floodplains; and
- Reasonable economic development and job creation.

### **Water Management Regulation Revisions**



In 2010 the Executive Office of Energy and Environmental Affairs (EEA) convened the Sustainable Water Management Initiative (SWMI) for the purpose of incorporating the best available science into the management of the Commonwealth's water resources. SWMI was a multi-year process that included a wide range of stakeholders and support from the Departments of Environmental Protection, Fish and Game, and Conservation and Recreation. In November 2012 the *Massachusetts Sustainable Water Management Initiative Framework Summary* (<https://www.mass.gov/files/documents/2016/08/wf/swmi-framework-nov-2012.pdf>) was released.

On November 7, 2014, the Department adopted revised Water Management Regulations at 310 CMR 36.00 that incorporate elements of the SWMI framework and the Water Conservation Standards adopted by the Massachusetts WRC. The regulations reflect a carefully developed balance to protect the health of Massachusetts' water bodies while meeting the needs of businesses and communities for water.

Without limitation, the Department has incorporated the following into Water Management permitting:

- Safe yield determinations for the major river basins based on a new methodology developed through SWMI (see the Safe Yield in the Charles River Basin section of this document);
- Water conservation and performance standards reviewed and approved by the WRC in July 2018 (<https://www.mass.gov/files/documents/2018/09/11/ma-water-conservation-standards-2018.pdf>), including without limitation;
- Environmental protections developed through SWMI, including without limitation;
  - protection for coldwater fish resources;
  - minimization of withdrawal impacts in areas stressed by groundwater use;
  - mitigation of the impacts of increasing withdrawals.

### **Safe Yield in the Charles River Basin**

This permit is being issued under the Safe Yield methodology adopted by MassDEP on November 7, 2014, and described in the Regulations at 310 CMR 36.13. As of the date of issuance of this permit, the safe yield for the Charles River Basin water source is 65.2 million gallons per day (MGD), and total allocated withdrawals are 44.12 MGD. The maximum withdrawals that will be authorized in this permit, and all other permits currently under review by the Department within the Charles River Basin, will be within the remaining safe yield and may be further conditioned as outlined in the regulations.

### **Findings of Fact for Permit Conditions in Brae Burn Country Club's Water Management Act Permit**

The Findings of Fact for the special conditions included in the permit generally describe the rationale and background for each special condition in the DRAFT permit. This summary of permit special conditions is not intended to, and should not be construed as, modifying any of the permit special conditions. In the event of any ambiguity between this summary and the actual permit conditions, the permit language shall control.



**Special Condition 1, Maximum Authorized Annual Average Withdrawal Volume,** specifies the authorized annual average withdrawal volume for each period during the life of this permit. The existing withdrawal volume for the Brae Burn Country Club is 0.10 million gallons per day (MGD) or 21.0 million gallons per year (MGY) over 210 days from its five irrigation sources.

**Special Condition 2, Maximum Authorized Daily Withdrawal From Withdrawal Point,** reflects the volume of groundwater withdrawal expressed as a maximum daily rate for the irrigation well included in the permit. Withdrawals in excess of these maximum daily rates require approval from the Department.

**Special Condition 3, Water Conservation Requirements,** have been updated and now incorporates the water conservation requirements that are subject to the July 2018 Water Conservation Standards for the Commonwealth of Massachusetts (<https://www.mass.gov/files/documents/2018/09/11/ma-water-conservation-standards-2018.pdf>).

**Special Condition 4, Seasonal Demand Management Plan**

Consistent with good water conservation practices, permitted golf courses will be required to implement a drought triggered Seasonal Demand Management Plan (SDMP) as a condition of their Water Management Permit. The SDMP, at a minimum, restricts nonessential outdoor water use between May 1<sup>st</sup> and September 30<sup>th</sup> when the Massachusetts Drought Management Task Force declares a drought level of “Mild Drought” or higher (“Significant Drought, Critical Drought or Emergency Drought”) for the region in which the golf course is located.

The SDMP shall also be implemented at times when streamflow falls below a designated flow trigger measured at an assigned, web-based, real-time U.S. Geologic Survey (USGS) stream gage from May 1<sup>st</sup> through September 30<sup>th</sup>. At a minimum, restrictions shall commence when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days. The low-flow statistic being applied, referred to as the “7-day low-flow statistic,” is the median value of annual 7-day low flows for the period of record for the assigned gage. The 7-day low-flow statistic is expected to respond more quickly to low-flow conditions than the Drought Management Task Force Drought Declaration.

Brae Burn Country Club has been assigned the following USGS stream gage #01104500—Charles River at Waltham, MA. The 7-day low flow at this site is 35 cubic feet per second (cfs). Should the reliability of the flow measurement at the Charles River at Waltham gage be so impaired as to question its accuracy, the Permittee may request MassDEP’s review and approval to transfer to another gage to trigger restrictions. MassDEP reserves the right to require use of a different gage.

Brae Burn shall be responsible for tracking the Massachusetts Drought Management Task Force drought declarations and recording when drought-triggered restrictions are implemented. Brae Burn shall also be responsible for tracking streamflow and recording when streamflow-triggered restrictions are implemented. See the attached SDMP and USGS WaterAlert instructions for tracking information.

The SDMP is intended to address the necessary minimums of acceptable demand management required as dry conditions begin to impact our environment from May through September. Of particular importance in developing your SDMP and in evaluating its effect on your golf course's irrigation, is the recognition of nonessential outside water uses. MassDEP considers the irrigation of tees and greens as essential uses, but fairways and roughs less so.

Section C of the SDMP provides three options for water use reduction. Two options for water use reduction are in table format with the third option being an open-ended alternative approach. The Acres Table requires that you identify the number of acres you irrigate for tees and greens, fairways, roughs, landscaping and ornamentals, along with a percent reduction per unit area with worsening drought. The Time Table requires that you identify irrigation in timing reduction cycles.

Brae Burn is currently using the Time Table Option for its SDMP and indicated in its Order to Complete (OTC) responses that it would continue to follow the Time Table reductions (See Table 4). Note that the Massachusetts Drought Level names have been changed to reflect the revisions made to the Massachusetts State Drought Management Plan.

### **Special Condition 5, Minimization**

Permittees with groundwater sources in subbasins having August net groundwater depletion (August NGD) of 25% or greater are required to develop a plan to minimize the impacts of their withdrawals. Brae Burn's permitted groundwater sources are located in subbasin 21025 which has an August NGD of 35.7%. Therefore, Brae Burn Country Club is required to prepare a Minimization Plan.

Minimization Requirements for golf courses are typically an extension of conservation and demand management requirements. Water Conservation is the only feasible option for most golf courses located in subbasins that are net groundwater depleted during August. Golf courses do not generally have extra capacity or sources to rely on and any that are available are typically in the same subbasin. Options for buying water are often prohibitively expensive and golf courses generally lack the ability to make streamflow releases.

As part of the OTC responses, Brae Burn submitted a list of water conservation measures that qualify as minimization measures. Those measures are included as a condition of this permit.

### **Special Condition 6, Mitigation of Impacts for Withdrawals that Exceed Baseline**

The renewed permit will include a condition that requires mitigation of withdrawals over a baseline volume, if feasible, if future withdrawals exceed the assigned baseline volume. Baseline withdrawal means the volume of water withdrawn during calendar year 2005 plus 5%, or the average annual volume withdrawn from 2003 through 2005 plus 5%, whichever is greater provided that:

- (a) baseline cannot be less than a permittee's registered volume;
- (b) baseline cannot be greater than the permittee's authorized volume for 2005; and
- (c) if, during the period from 2003 to 2005, the permittee's withdrawals from the water source were interrupted due to contamination of the source or construction of a treatment

plant, the Department will use best available data to establish a baseline volume from the water source.

The calculated baseline withdrawal volume for Brae Burn Country Club is 0.072 MGD, its authorized withdrawal volume in 2005. Therefore, Brae Burn must submit and implement a mitigation plan to mitigate the volumes requested above 0.072 MGD, which is 0.028 MGD.

Mitigation plans were discussed in the response to public comments and when MassDEP met with Brae Burn on September 15, 2022. A 2007-2008 Maintenance Facility Construction/Upgrade including stormwater management and infiltration system was evaluated for direct mitigation. Stormwater BMPs that were built on or after January 1, 2005 that infiltrate stormwater from previously directly connected impervious surfaces<sup>1</sup> are eligible for the mitigation credits. The 2007-2008 Maintenance Facility Construction/Upgrade demolished the impervious area that existed prior to 2005 and the pre-development hydrology indicates that the building and surrounding area directed runoff to a depressed area about 70' east of the building and was not directly connected to a surface water body. Therefore, this project does not qualify for direct mitigation credits.

Without additional eligible direct mitigation activities, indirect mitigation activities were evaluated to meet the mitigation requirements of 0.028 MGD. It was decided that component recognition within the Audubon Cooperative Sanctuary Program (ACSP) would be the most suitable form of mitigation. Brae Burn Country Club has obtained certifications in the Environmental Planning, Water Conservation, Wildlife and Habitat Management, and Chemical Use Reduction and Safety components. Therefore, Brae Burn receives 6 indirect mitigation credits for partial participation in the ACSP, which translates to 0.06 MGD. Brae Burn Country Club shall keep its ACSP certification active during the life of this permit. If Brae Burn Country Club fails to do so, additional mitigation options will need to be submitted and reviewed prior to exceeding the baseline volume of 0.072 MGD.

**Coldwater Fish Resource Protection** was incorporated into the Water Management Regulation in November 2014. Coldwater Fish Resource protection is not a condition of this permit because Brae Burn's withdrawals do not impact any waters that the Massachusetts Division of Fisheries and Wildlife has identified as supporting coldwater fish at this time.

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<sup>1</sup> Directly connected impervious surfaces are those whose runoff discharges to a surface water body.

This information is available in alternate format. Please contact Melixza Esenyie at 617-626-1282.

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MassDEP Website: [www.mass.gov/dep](http://www.mass.gov/dep)



## Department of Environmental Protection

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Secretary

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### **DRAFT** WATER WITHDRAWAL PERMIT #9P2-3-20-207.01 – Brae Burn Country Club

This permit is issued pursuant to the Massachusetts Water Management Act (WMA) for the sole purpose of authorizing the withdrawal of a volume of water as stated below and subject to the following special and general conditions. This permit conveys no right in or to any property beyond the right to withdraw the volume of water for which it is issued.

**PERMIT NUMBER:** 9P2-3-20-207.01

**RIVER BASIN:** Charles River

**PERMITTEE:** Brae Burn Country Club

**EFFECTIVE DATE:** March 22, 2023

**EXPIRATION DATE:** June 5, 2034\*

\* The original expiration date for this permit was February 28, 2029. The expiration date was extended by four years by St. 2010, c. 240, as amended by St. 2012, c.238, collectively known as the Permit Extension Act. The expiration date was further extended by 462 days due to COVID-19 Order No. 42, "Order Resuming State Permitting Deadlines and Continuing to Extend the Validity of Certain State Permits," issued on July 2, 2020.

**NUMBER OF WITHDRAWAL POINTS:** 5

Groundwater: 5

Surface Water: 0

**USE:** Golf Course Irrigation

**DAYS OF OPERATION:** 210 (April-November)

**LOCATION:**

Source Name	Location
#1-89	326 Fuller Street
#4-88	326 Fuller Street
#6-89	326 Fuller Street
#12-89	326 Fuller Street
#1-99	326 Fuller Street

This information is available in alternate format. Please contact Melixza Esenyie at 617-626-1282.

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## SPECIAL CONDITIONS

### 1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes Brae Burn Country Club to withdraw water from the Charles River Basin at the rate described below in Table 1. The permitted volume is expressed both as an annual average daily withdrawal rate (million gallons per day or MGD), and as a total annual withdrawal volume (million gallons per year or MGY) for each permit period over the term of this permit.

The Department of Environmental Protection (MassDEP) bases these withdrawal volumes on the raw water volume from the authorized withdrawal points and will use the raw water volume to assess compliance with the permitted withdrawal volumes.

**Table 1: Maximum Authorized Annual Withdrawal Volumes**

Permit Periods	Total Raw Water Withdrawal Volumes	
	Daily Average (MGD)	Total Annual (MGY)
xx/xx/2023 to 6/5/2029	0.10	21.0
6/6/2029 to 6/5/2034	0.10	21.0

### 2. Maximum Authorized Daily Withdrawals from Each Withdrawal Point

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed in Table 2 without specific advance written approval from MassDEP. The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawal points exceed the withdrawal volumes authorized above in Special Condition 1.

**Table 2: Maximum Daily Withdrawal Volumes**

Source Name	Maximum Daily Rate (MGD)
#1-89	0.05
#4-88	0.05
#6-89	0.03
#12-89	0.10
#1-99	0.043

### 3. Water Conservation Requirements

Brae Burn Country Club shall implement the following water conservation requirements (Table 3).

**Table 3. Water Conservation Requirements**

a. Metering 100% of water use, and calibrating source meters annually.
b. Implementation of an irrigation system inspection and maintenance program that includes the following on a routine basis: <ul style="list-style-type: none"><li>• Leak detection and repair: Daily monitoring of the golf course to insure no leaks throughout the system are present.</li><li>• Weekly Sprinkler head maintenance and replacement to ensure proper trajectory, pressure, and rotation</li><li>• Weekly cleaning or replacing clogged nozzles.</li></ul>
c. Use of a computerized-control irrigation system that allows for irrigation of only those areas in need.
d. Use of portable soil moisture sensors and golf weather apps to increase the efficiency of the irrigation system
e. Irrigating in the early morning or evening hours when evaporation rates are at their lowest, to extent practicable to maintain the turf
f. Regular aerating of turf to increase the percolation of water into the soil
g. Use of mulch materials in planting beds to improve water-holding capacity of the landscaping
h. Use of environmentally safe wetting agents to improve water infiltration and minimize evaporation
i. Use of low water use or native drought tolerant plants to the greatest extent practicable
j. Employee training in water conservation and management

#### **4. Seasonal Demand Management Plan**

Brae Burn Country Club shall limit nonessential outdoor water use through mandatory restrictions from May 1<sup>st</sup> through September 30<sup>th</sup> as outlined in the Seasonal Demand Management Plan (SDMP). At a minimum, restrictions shall commence when the Massachusetts Drought Management Task Force declares a Level 1- Mild Drought or higher Level 2- Significant Drought, Level 3-Critical Drought, or Level 4-Emergency Drought for the region in which the golf course is located.

The SDMP shall also be implemented at times when streamflow falls below a designated flow trigger measured at an assigned, web-based, real-time U.S. Geologic Survey (USGS) groundwater gage from May 1<sup>st</sup> through September 30<sup>th</sup>. At a minimum, restrictions shall commence when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days. The low-flow statistic being applied, referred to as the “7-day low-flow statistic,” is the median value of annual 7-day low flows for the period of record for the assigned gage. The 7-day low-flow statistic is expected to respond more quickly to low-flow conditions than the Drought Management Task Force Drought Declaration.

Brae Burn Country Club has been assigned the following USGS stream gage #01104500—Charles River at Waltham, MA. The 7-day low flow at this site is 35 cubic feet per second (cfs).

Brae Burn Country Club is using the Time Table Option for its SDMP, which requires that the club identifies irrigation in timing reduction cycles (Table 4).

**Table 4. Brae Burn Country Club Seasonal Demand Management Plan**

Irrigating for Shorter Durations as Drought Severity Increases Reduced Minutes in Irrigation Cycles								
Massachusetts Drought Levels	Irrigated Tees & Greens		Irrigated Fairways		Irrigated Roughs		Irrigated Landscape & Ornamentals	
	Percent	Time (min.)	Percent	Time (min.)	Percent	Time (min.)	Percent	Time (min.)
Normal	Full cycle	12	Full cycle	12	Full Cycle	12	100%	10
Mild Drought or WMA Permit Trigger is reached	Full cycle	12	80%†	9.6	50%†	6	0%*	
Significant Drought	Full cycle	12	60%†	7.2	0%	0		
Critical Drought	Full cycle	12	40%†	4.8	0%	0		
Emergency Drought**	TBD	TBD	0%	0	0%	0	0%	
† Irrigation use shall not occur between the hours of 9 a.m. and 5 p.m., except that hand-watering of hot spots may occur at any time.								
* Courses whose core business includes a special event venue may continue to irrigate gardens, flowers and ornamental plants by means of hand-held hose or drip irrigation during a Mild, Significant, or Critical Drought.								
** Mitigation actions to be determined by the Governor’s Emergency Proclamation.								

## 5. Minimization

This information is available in alternate format. Please contact Melixza Esenyie at 617-626-1282.  
TTY# MassRelay Service 1-800-439-2370  
MassDEP Website: [www.mass.gov/dep](http://www.mass.gov/dep)

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Brae Burn Country Club shall minimize the impacts of its groundwater withdrawals from sources in Subbasin 21025 through the continued implementation of the following water conservation measures:

**Table 5. Brae Burn Country Club Minimization Plan**

1. Lining new and existing irrigation holding ponds with impervious material.
2. Use of a weather app or an onsite weather station combined with an automated sprinkler system governed by atmospheric conditions.
3. Installation of rain shutoff switches on all new and existing irrigation systems.
4. Reduction of irrigation rates in secondary rough acres and, where possible, elimination of irrigation in non-play areas.
5. Use of low-water-use turf grass where applicable.
6. Use of low water-use landscaping or native drought-tolerant plants where feasible around buildings, parking areas or other appropriate places. Gravel pathways or borders that permit infiltration but have low evaporation potential are one example of xeriscaping.
7. Employee training in water conservation and management.
8. Improving irrigation uniformity through careful evaluation of design criteria such as nozzle size, spacing, scheduling coefficient and pressure selection.
9. Installation of 3 <sup>rd</sup> party retrofit nozzles.
10. Install low-pressure alarms on water pumps and variable-speed drives.

## **6. Mitigation**

Brae Burn Country Club is required to mitigate 0.028 MGD for its permitted withdrawals over the baseline. Brae Burn Country Club has obtained certifications in the Environmental Planning, Water Conservation, Wildlife and Habitat Management, and Chemical Use Reduction and Safety components of the Audubon Cooperative Sanctuary Program (ACSP). Brae Burn Country Club shall maintain the required ACSP recognitions or certification during the life of this permit.

### **General Permit Conditions (applicable to all Permittees)**

- 1. Duty to Comply** The Permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
- 2. Operation and Maintenance** The Permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw up to the authorized volume so as not to impair the purposes and interests of the Act.
- 3. Entry and Inspections** The Permittee or the Permittee's agent shall allow personnel or authorized agents or employees of MassDEP to enter and examine any property, inspect and monitor the withdrawal, and inspect and copy any relevant records, for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.

4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by MassDEP pursuant to M.G.L. c. 21G, §§ 15-17, M.G.L. c. 111, § 160, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until MassDEP approves such transfer in writing, pursuant to a transfer application on forms provided by MassDEP requesting such approval and received by MassDEP at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.
6. **Duty to Report** The Permittee shall submit annually, on a form provided by MassDEP, a certified statement of the withdrawal. Such report is to be received by MassDEP by the date specified by MassDEP. Such report must be mailed or hand delivered to the address specified on the report form.
7. **Duty to Maintain Records** The Permittee shall be responsible for maintaining withdrawal records as specified by this permit.
8. **Metering** Withdrawal points shall be metered. Meters shall be calibrated annually. Meter shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.
9. **Amendment, Suspension or Termination** The Department may amend, suspend or terminate this permit in accordance with M.G.L. c. 21G or 310 CMR 36.29.

### **APPEAL RIGHTS AND TIME LIMITS**

This permit is a decision of MassDEP. Any person aggrieved by this decision may request an adjudicatory hearing. Any such request must be made in writing, by certified mail and received by MassDEP within twenty-one (21) days of the date of receipt of this permit.

No request for an appeal of this permit shall be validly filed unless a copy of the request is sent by certified mail, or delivered by hand to the local water resources management official in the community in which the withdrawal point is located; and for any person appealing this decision, who is not the applicant, unless such person notifies the permit applicant of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to MassDEP.

### **CONTENTS OF HEARING REQUEST**

310 CMR 1.01(6)(b) requires the request to include a clear and concise statement of the facts which are the grounds for the request and the relief sought. In addition, the request must include a statement of the reasons why the decision of MassDEP is not consistent with applicable rules and regulations, and for any person appealing this decision who is not the applicant, a clear and concise statement of how that person is aggrieved by the issuance of his permit.

### **FILING FEE AND ADDRESS**

This information is available in alternate format. Please contact Melixza Esenyie at 617-626-1282.  
TTY# MassRelay Service 1-800-439-2370  
MassDEP Website: [www.mass.gov/dep](http://www.mass.gov/dep)

Printed on Recycled Paper

The hearing request, together with a valid check, payable to the Commonwealth of Massachusetts in the amount of \$100 must be mailed to:

Commonwealth of Massachusetts  
Department of Environmental Protection  
P.O. Box 4062  
Boston, MA 02211

The request shall be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

### **EXEMPTIONS**

The filing fee is not required if the appellant is a municipality (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority.

### **WAIVER**

MassDEP may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of MassDEP that the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request, an affidavit setting forth the facts which support the claim of undue hardship.



3/20/2023

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Duane LeVangie  
Water Management Program Chief  
Bureau of Water Resources

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Date

## ATTACHMENT

### Seasonal Limits on Nonessential Outdoor Water Use using 7-Day Low Flow Trigger

Brae Burn Country Club shall limit nonessential outdoor water use through mandatory restrictions from May 1<sup>st</sup> through September 30<sup>th</sup> as outlined in below. To the extent feasible, all summer outdoor water use should take place before 9 am and after 5 pm when evaporation and evapotranspiration rates are lower.

#### 7-Day Low Flow Triggered Restrictions

Brae Burn Country Club should implement the “Advisory” level water use reductions outlined in its Acres-Reduction Seasonal Demand Management Plan (SDMP):

When USGS stream gage 01104500 –Charles River at Waltham, MA falls below the 7-day low-flow statistic **35 cfs** for three (3) consecutive days.

Once implemented, the restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.

### Instructions for Accessing Streamflow Website Information

**Streamflow information** is available at the USGS National Water Information System (NWIS): Web Interface. The USGS NWIS default shows Massachusetts streamflow in real time, i.e., the most recent, usually quarterly hourly, reading made at each USGS stream gage.

Seasonal Limits on Nonessential Outdoor Water Use are implemented when the mean daily streamflow falls below the designated trigger. The mean daily flow is not calculated until after midnight each day when the USGS computes the hourly data into a mean daily streamflow. As a result, permittees must use the mean daily streamflow from the preceding day when tracking streamflows.

**Mean daily streamflow gage** readings are available at the USGS NWIS Web Interface at <http://waterdata.usgs.gov/ma/nwis/current/?type=flow>.

- Scroll down to 01104500 – Charles River at Waltham, MA.
- Click on the gage number.
- Under “Charles River at Waltham, MA” click “Legacy real-time page.”
- Scroll down to “Provisional Data Subject to Revision – Available data for this site” and click on the drop down menu.
- Click on “Time-series: Daily data” and hit GO.
- Scroll down to the “Available Parameters” box. Within the box, be sure “Discharge (mean)” is checked, then, under “Output Format” click “Table” and hit GO.
- Scroll down to “Daily Mean Discharge, cubic feet per second” table and find the current date on the table.
- Compare the cubic feet per second (cfs) measurement shown on the table to the cfs shown under 7-Day Low Flow Triggered Restrictions above.